

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1 - 9. (canceled).

10. (currently amended): A diaphragm pump comprising:

a pressure chamber formed into a flat shape and filled up with liquid;

a suction side flow passage and a discharge side flow passage disposed at opposite ends of the pressure chamber so that axes thereof are aligned with each other and are connected with the pressure chamber;

at least one groove formed in a peripheral wall of the pressure chamber for acceleration of a flow of the liquid downstream in a flow direction;

at least one diaphragm disposed on at least one of an upper surface and a lower surface of the pressure chamber for oscillation to make a volume of the pressure chamber variable;

~~The diaphragm pump according to any one of Claims 1 or 2, further comprising:~~

at least one intake opened to an upper surface of the suction side flow passage ~~and to~~ introduce bubbles mixed in the liquid; and

a sealed space connected with the intake ~~and to~~ collect the introduced bubbles.

11. (original): The diaphragm pump according to Claim 10, wherein the intake is positioned in the suction side flow passage upstream relative to the check valve.

12 - 16. (canceled).

17. (currently amended): A diaphragm pump comprising:

a pressure chamber formed into a flat shape and filled up with liquid;

a suction side flow passage and a discharge side flow passage disposed at opposite ends of the pressure chamber so that axes thereof are aligned with each other and are connected with the pressure chamber;

at least one groove formed in a peripheral wall of the pressure chamber for acceleration of a flow of the liquid downstream in a flow direction; and

at least one diaphragm disposed on at least one of an upper surface and a lower surface of the pressure chamber for oscillation to make a volume of the pressure chamber variable;

~~The diaphragm pump according to Claim 6, further comprising:~~

~~at least one intake opened to an upper surface of the suction side flow passage and to introduce bubbles mixed in the liquid; and~~

~~a sealed space connected with the intake and to collect the introduced bubbles;~~

wherein each cross-sectional shape of the pressure chamber, the suction side flow passage, and the discharge side flow passage in a surface orthogonal to the axes are formed in an approximate rectangle; and

wherein a lower surface of the pressure chamber and the lower surfaces of the suction side flow passage and the discharge side flow passage are formed on the same surface.

18. (previously presented): The diaphragm pump according to Claim 17, wherein the intake is positioned in the suction side flow passage upstream relative to the check valve.

19. (canceled).

20. (canceled).

21. (previously presented): The diaphragm pump according to Claim 11, wherein the diaphragm is a piezoelectric oscillator driven by a piezoelectric element.

22. (previously presented): A cooling system comprising:
the diaphragm pump according to Claim 11; and
a closed-structure flow passage for circulating liquid discharged from the discharge side flow passage in the diaphragm pump and for returning the liquid to the suction side flow passage.